

WHAT IS CLAIMED IS:

1. A method of making a microelectromechanical system device comprising:
releasing a micromover component; and
coating the micromover component with a first self-aligned film after releasing the micromover component.
2. The method of claim 1, wherein the step of coating comprises selectively depositing a coating composition only on the micromover component.
3. The method of claim 1, wherein the film comprises at least one of a polymer, PMMA and an epoxy photoresist.
4. The method of claim 3, wherein the polymer is thermoplastic.
5. The method of claim 3, wherein the polymer is thermoset.
6. The method of claim 1, wherein coating the micromover component comprises adjusting a coating parameter to control the film thickness.
7. The method of claim 6, wherein adjusting a coating parameter comprises selecting a solid to solvent ratio.
8. The method of claim 6, wherein adjusting a coating parameter comprises selecting an amount of film material to deposit.

9. The method of claim 1, further comprising plasma treating a surface of the micromover component prior to coating.
10. The method of claim 9, further comprising applying an adhesion promoter to the micromover component after plasma treating.
11. The method of claim 1, further comprising coating the micromover component with a second self-aligned film.
12. The method of claim 11, wherein the second self-aligned film comprises a different material from the first self-aligned film.
13. The method of claim 12, wherein one of the self-aligned films comprises a thermoplastic polymer and the other comprises a thermoset polymer.
14. The method of claim 12, wherein the first self-aligned film and the second self-aligned film have different hardness.
15. The method of claim 12, wherein the first self-aligned film and the second self-aligned film have different glass transition temperatures.
16. The method of claim 1, further comprising bonding a wafer having at least one contact probe or AFM tip opposite the self-aligned film.
17. The method of claim 16, further comprising fabricating a contact atomic resolution storage device.
18. The method of claim 1, wherein the first self-aligned film is adapted for data storage, anti-wear, anti-reflective, desiccant or an anti-stiction.

19. A mass storage device comprising:
 - at least one micromover including a self-aligned film adapted to store data; and
 - at least one contact probe or AFM tip located opposite the at least one micromover and adapted to write in the self-aligned film.
20. The mass storage device of claim 19, wherein the self-aligned film comprises a polymer.
21. The mass storage device of claim 20, wherein the polymer comprises at least one of thermoplastic, PMMA and an epoxy photoresist.
22. The mass storage device of claim 20, wherein the polymer is thermoset.
23. The mass storage device of claim 19, further comprising a plurality of self-aligned films.
24. The mass storage device of claim 23, wherein the plurality of self-aligned films comprises at least two different film materials.
25. The mass storage device of claim 24, wherein one of the self-aligned films comprises a thermoplastic polymer and the other comprises a thermoset polymer.
26. The mass storage device of claim 24, wherein the at least two different film materials have different hardness.

27. The mass storage device of claim 24, wherein the at least two different film materials have different glass transition temperatures.

28. A mass storage device comprising:
at least one means for storing data having at least one self-aligned film; and
means for writing data in the at least one self-aligned film.

29. The mass storage device of claim 28, further comprising a means for moving the means for storing data.

30. The mass storage device of claim 29, further comprising a means for reducing wear of the means for writing data.

31. An integrated circuit comprising:
at least one micromover having a self-aligned film adapted to store data;
at least one contact probe or AFM tip located opposite the at least one micromover, the at least one contact probe or AFM tip adapted to write in the self-aligned film; and
at least one circuit to control the movement of the at least one micromover.

32. The integrated circuit of claim 31, wherein the integrated circuit comprises a contact atomic resolution storage device.

33. A method of storing data comprising:
moving a micromover having a self-aligned data storage film; and
heating at least one contact probe or AFM tip to a first temperature to make an indentation in the self-aligned data storage film.

34. The method of claim 33, further comprising repeating the steps of moving and heating a plurality times.

35. The method of claim 34, further comprising erasing previously written data by heating the self-aligned data storage film to a second temperature to melt the film and remove the indentations.

36. The method of claim 35, further comprising reusing the self-aligned data storage film by moving the micromover and heating at least one contact probe or AFM tip to the first temperature to make an indentation in the self-aligned data storage film.

37. A method of making a semiconductor device comprising:
fabricating at least one component on a substrate; and
coating the at least one component with a first self-aligned polymer film.

38. The method of claim 37, wherein the semiconductor device comprises at least one of a display, a bio-chip, a surface microelectromechanical system device and a bulk microelectromechanical system device.

39. The method of claim 37, further comprising coating the at least one component with a second self-aligned film.

40. The method of claim 39, wherein the second self-aligned film comprises a different material from the first self-aligned film.

41. A semiconductor device comprising at least one component having a self-aligned polymer film thereon.

42. The semiconductor device of claim 41, wherein the semiconductor device comprises one of a display, a bio-chip, a surface microelectromechanical system device and a bulk microelectromechanical system device.